

eTable I. Unadjusted comparison of COVID-19 outcomes by atopic disease status.**ICU Admission**

Atopic Disease Category	% Admitted to ICU		p-value ^a
	Atopic Disease Category Present	Atopic Disease Category Absent	
Any confirmed atopic disease	29/67 (43.3%)	93/208 (44.7%)	0.84
Any reported atopic disease	43/91 (47.3%)	79/184 (42.9%)	0.50
Asthma	26/60 (43.3%)	96/215 (44.7%)	0.86
Reported allergic rhinitis	16/31 (51.6%)	106/244 (43.4%)	0.39
Dermatitis/eczema	5/8 (62.5%)	117/267 (43.8%)	0.29
Reported food allergy	4/15 (26.7%)	118/260 (45.4%)	0.16

a. Chi-square test

Supplemental Oxygen

Atopic Disease Category	% Receiving Supplemental Oxygen		p-value ^a
	Atopic Disease Category Present	Atopic Disease Category Absent	
Any confirmed atopic disease	53/67 (79.1%)	153/208 (73.6%)	0.36
Any reported atopic disease	72/91 (79.1%)	134/184 (72.8%)	0.26
Asthma	48/60 (80.0%)	158/215 (73.5%)	0.30
Reported allergic rhinitis	26/31 (83.9%)	180/244 (73.8%)	0.22
Dermatitis/eczema	6/8 (75.0%)	200/267 (74.9%)	0.99
Reported food allergy	10/15 (66.7%)	196/260 (75.4%)	0.45

a. Chi-square test

Mortality

Atopic Disease Category	% In-Hospital Mortality		p-value ^a
	Atopic Disease Category Present	Atopic Disease Category Absent	
Any confirmed atopic disease	9/67 (13.4%)	43/208 (20.7%)	0.19
Any reported atopic disease	16/91 (17.6%)	36/184 (19.6%)	0.69
Asthma	9/60 (15.0%)	43/215 (20.0%)	0.38
Reported allergic rhinitis	5/31 (16.1%)	47/244 (19.3%)	0.67
Dermatitis/eczema	0/8 (0%)	52/267 (19.5%)	0.36 ^b
Reported food allergy	3/15 (20.0%)	49/260 (18.9%)	0.91

a. Chi-square test unless otherwise specified

b. Fisher's exact test

Length of Stay

Atopic Disease Category	LOS, median (IQR)		p-value ^a
	Atopic Disease Category Present	Atopic Disease Category Absent	
Any confirmed atopic disease	9 (4-16)	9 (5-16)	0.56
Any reported atopic disease	9 (4-16)	9 (5-16)	0.72

Asthma	9 (4-15)	9 (5-16)	0.42
Reported allergic rhinitis	9 (4-14)	9 (5-16)	0.97
Dermatitis/eczema	13 (7-14)	9 (4-16)	0.62
Reported food allergy	7 (4-16)	9 (4-16)	0.55

a. Wilcoxon rank-sum test

IQR=interquartile range

Intubation

Atopic Disease Category	% Intubation		p-value ^a
	Atopic Disease Category Present	Atopic Disease Category Absent	
Any confirmed atopic disease	24 (35.8%)	76 (36.5%)	0.92
Any reported atopic disease	35 (38.5%)	65 (35.3%)	0.61
Asthma	21 (35.0%)	79 (36.7%)	0.80
Reported allergic rhinitis	13 (41.9%)	87 (35.7%)	0.49
Dermatitis/eczema	5 (62.5%)	95 (35.6%)	0.14 ^b
Reported food allergy	4 (26.7%)	96 (36.9%)	0.42

a. Chi-square test unless otherwise specified

b. Fisher's exact test

ICU Length of Stay, restricted to patients with ICU admission

Atopic Disease Category	ICU LOS, median (IQR)		p-value ^a
	Atopic Disease Category Present	Atopic Disease Category Absent	
Any confirmed atopic disease	5 (3-12)	8 (4-14)	0.36
Any reported atopic disease	7 (3-13)	8 (4-14)	0.45
Asthma	5 (3-12)	9 (4-14)	0.15
Reported allergic rhinitis	4.5 (2-13)	8 (4-14)	0.32
Dermatitis/eczema	9 (9-10)	7 (3-13)	0.26
Reported food allergy	12.5 (9-15)	7 (3-13)	0.17

a. Wilcoxon rank-sum test

IQR=interquartile range

Peak IL-6 (available for 182 patients)

Atopic Disease Category	Peak IL-6, median (IQR)		p-value ^a
	Atopic Disease Category Present	Atopic Disease Category Absent	
Any confirmed atopic disease	67.7 (25-127)	69.8 (26-261)	0.40
Any reported atopic disease	85.1 (31-147)	66.4 (25-220)	0.49
Asthma	64.4 (26-127)	69.9 (26-261)	0.30
Reported allergic rhinitis	71.0 (26-196)	69.7 (26-196)	0.94
Dermatitis/eczema	131.1 (63-2004)	68.9 (26-196)	0.59
Reported food allergy	136.5 (37-855)	68.9 (26-196)	0.41

CRP (available for 240 patients)

Atopic Disease Category	CRP, median (IQR)		p-value ^a
	Atopic Disease Category Present	Atopic Disease Category Absent	
Any confirmed atopic disease	125.6 (53-196)	148.2 (63-241)	0.53
Any reported atopic disease	126.1 (48-208)	148.7 (67-238)	0.37
Asthma	124.0 (52-193)	148.7 (64-244)	0.35
Reported allergic rhinitis	126.1 (50-193)	140.6 (63-233)	0.59
Dermatitis/eczema	40.8 (36-302)	135.9 (66-231)	0.62
Reported food allergy	145.1 (21-286)	135.7 (64-228)	0.97

eTable II. Severity Outcomes by Race.

Outcome	African-American (n=103)	White (n=144)	p-value ^a
Supplemental Oxygen	77 (74.8%)	112 (77.8%)	0.58
ICU Admission	45 (43.7%)	71 (49.3%)	0.38
Mortality	19 (18.4%)	31 (21.5%)	0.55

a. Chi-square test

Excludes race=Other.

eTable III. Outcomes in non-COPD patients

Outcome	Confirmed atopic disease (n=41)	No confirmed atopic disease (n=172)	p-value ^a
Supplemental Oxygen	30 (73.2%)	122 (70.9%)	0.76
ICU Admission	11 (26.8%)	71 (41.3%)	0.09
Mortality	4 (9.8%)	31 (18.0%)	0.20
Intubation	9 (22.0%)	57 (33.1%)	0.16

a. Chi-square test

eTable IV. Inhaled medication usage

	Medication	Total patients	Total ICS usage
Asthma without COPD (n=36)	Fluticasone	3	18
	Beclomethasone	0	
	Budesonide	0	
	Ciclesonide	0	
	Mometasone	4	
	Fluticasone-salmeterol	3	
	Fluticasone-vilanterol	2	
	Mometasone-formoterol	3	
	Budesonide-formoterol	3	
Asthma/COPD overlap (n=24)	Fluticasone	0	16
	Beclomethasone	1	
	Budesonide	1	
	Ciclesonide	0	
	Mometasone	1	
	Fluticasone-salmeterol	8	
	Fluticasone-vilanterol	0	
	Mometasone-formoterol	1	
	Budesonide-formoterol	4	
COPD without asthma (n=38)	Fluticasone	0	14
	Beclomethasone	0	
	Budesonide	0	
	Ciclesonide	0	
	Mometasone	0	
	Fluticasone-salmeterol	7	
	Fluticasone-vilanterol	0	
	Mometasone-formoterol	1	
	Budesonide-formoterol	6	